Petroleum Storage and Dispensing

Potential Environmental Impacts

Petroleum storage tanks have the potential to leak into the environment. Just one gallon of gasoline can contaminate the water supply for 50,000 people and is toxic to fish and other aquatic life. Ignitable vapors from leaking tanks can collect in places such as basements or sewers, potentially causing fires or explosions. Gasoline vapors also contain significant amounts of air toxics, including VOCs (volatile organic compounds) which negatively affect our air quality.

Removal of soil contaminated by a leaking underground storage tank

Legal Requirements

Underground Petroleum Storage

Petroleum tanks with 10% or more of total volume below grade (including the volume of connected underground pipes) are considered Underground Storage Tank systems (USTs) and must meet certain requirements. For vehicle service operations, regulated tanks include gasoline, diesel fuel, kerosene, and used oil USTs of any size. Heating oil USTs used solely for on-site are also subject to some of the UST requirements. Oil/water separators are not subject to UST requirements but must be in compliance with all applicable standards for the management of wastewater (see the Shop Wastewater fact sheet). The UST requirements are summarized below:

UST Installation and Operation

1) The tanks must be constructed of fiberglass-reinforced plastic or steel with manufacturer applied anti-corrosive coating and cathodic protection, or be a composite or jacketed tank certified to meet UL Standard 1746 or the ACT-100. The piping must be constructed of fiberglass-reinforced plastic or steel with manufacturer applied anti-corrosive coating and cathodic protection, or be flexible or semi flexible plastic. UST systems must be installed according to manufacturer's specifications.
2) As of October 1, 2003, all new tanks and piping must be double-walled and have continuous interstitial monitoring.
3) The facility must have an approved method of leak detection for both tank and piping and records must be maintained for at least 5 years beyond the operational life of the UST system.
4) UST systems equipped with cathodic protection must be tested within 6 months of installation and at least annually thereafter. Additionally, impressed current cathodic protection systems require monthly inspections of rectifier current and voltage output.
5) Fill-pipes on tanks must have means to collect spills from delivery hoses unless the UST system is filled by transfers of no more than 25 gallons at one time.

6) The tanks must have overfill protection, such as automatic shutoff devices which activate at 95% UST capacity or restrict flow during deliveries at 90% full or trigger a high level alarm unless the UST system is filled by transfers of no more than 25 gallons at one time.

7) As of August 8, 2012, newly installed motor fuel UST systems must have liquid tight piping containment sumps and liquid tight under-dispenser containment sumps, both equipped with sensors. These requirements may also apply when significant upgrades are performed, such as replacing more than 50% of a facility's dispensers.

8) Operators of UST systems will be required to be trained by August 8, 2012. Training is available through the International Code Council.

9) Manual tank gauging may continue to be used for tanks with a capacity of 550 gallons or less (e.g., waste oil) unless they were installed on or after October 1, 2003.

10) USTs must be registered with DEEP when installed by submitting the Underground Storage Tank Notification Form (DEP-UST-NOT-001).

11) Heating oil tanks are required to be corrosion-protected and double-walled if their capacity is 2100 gallons or greater or if installed on or after October 1, 2003. Heating oil tanks that are less than 2100 gallons capacity are exempt from registration, inventory control, life expectancy determination and failure detection testing at the end of life expectancy. State and local fire marshals can enforce the fire codes which include installation of spill and overfill prevention equipment.

12) All USTs not meeting these requirements must be properly closed. Failure to properly close non-upgraded USTs can result in monetary fines.

UST Reporting and Record Keeping

1) You must submit the following information to DEEP:

- Annual registration with fee using the Underground Storage Tank Notification Form (DEP-UST-NOT-001):
- Reports of all suspected releases and corrective actions.
- Notification before permanent closure or change-in-service. Sampling under the tank, lines and dispensers is also required at time of closure. If contamination is discovered, it must be reported immediately to the DEEP and corrective action reports must be submitted.

2) You must keep and maintain the following records at the UST site and make them immediately available for inspection by DEEP:

- Copies of all Notification Forms.
- Documentation of annual tests of corrosion protection equipment.
- Documentation of UST system repairs.
- Documentation of compliance with release detection requirements.
- Results of the site investigation conducted at permanent closure.

3) These records must be maintained at the UST site for at least five years beyond the operational life of the UST system. Records, if greater than 5 years old, or with written approval by the DEEP Commissioner, may be kept at an alternative site, but must be made immediately available to DEEP inspectors upon request. Owners or operators of more than 10 facilities have additional limited off-site record storage options.

For more information, visit DEEP's UST webpage or contact the Storage Tank Program at DEP.USTfee@ct.gov or 860-424-3374.

Aboveground Petroleum Storage

If your facility stores oil (includes any kind or form, including gasoline) in aboveground tank(s) with a total aggregate volume of over 1,320 gallons (containers of less than 55 gallons are exempt) it may require a Spill Prevention, Control and Countermeasure (SPCC) Plan. The SPCC Plan outlines a facility's oil containment systems and procedures to prevent spills and contingency plans in case of spills. (See the SPCC Plans Fact Sheet for more information.) The aboveground storage tank should be located within a dike or over an impervious storage area with containment volumes equal to 110% of the capacity of the storage tank.

Gasoline Vapor Recovery

Gasoline vapors contain significant amounts of air toxics, including volatile organic compounds. To control emissions of these vapors, the following regulations were implemented:

Stage I vapor recovery: Gasoline tank trucks are required to collect gasoline vapors displaced during delivery. All gasoline storage tanks with a capacity of 250 gallons or more must have a permanent submerged fill pipe (drop tube) with a discharge point eighteen (18) inches or less from the bottom of the storage tank unless it is a pressure "tank."

Note: This DEEP requirement may not meet the U.S.EPA's regulations for gasoline dispensing facilities [40 CFR Part 63 Subpart CCCCCC]. For more information about the specific federal requirements, go to Summary of Regulations Controlling Air Emissions from Gasoline Dispensing Facilities.

Stage II vapor recovery: Gasoline stations that pump more than 10,000 gallons of gasoline per month were required to install vapor recovery systems on gasoline pumps, which recover vapors when vehicles are refueled. Stage II systems were required to be tested when installed and every 3 years or when there is a major modification. Because newer vehicles have on-board vapor recovery systems, the Stage II vapor recovery program is rapidly becoming obsolete. DEEP is currently working on a plan to phase out the program at existing stations. As part of this ongoing effort, DEEP is waiving the Stage II vapor recovery system requirement for newly constructed gasoline stations as of February 2, 2012.

Find more information on vapor recovery requirements on DEEP's website or contact DEEP's Bureau of Air Management at 860-424-3027.

Additional Information

- **MTBE**: The use of MTBE in gasoline was banned in Connecticut in 2004 and fuel suppliers replaced it with ethanol. Nevertheless, MTBE remains a ground water contaminant at gas station sites as well as other sites in the State. Find more information on MTBE on the DEEP website or call DEEP's Bureau of Air Management at 860-424-3027.

- **Gas Cans:** All portable fuel containers sold in Connecticut must meet certain "no-spill" requirements. For more information about gas cans, visit the DEEP website or call DEEP's Bureau of Air Management at 860-424-3027.

- **Spills:** Any spill or release of oil or petroleum product, chemical or waste must be reported to the DEEP's Emergency Response and Spill Prevention Division at 860-424-3338. See the Spill Reporting Fact Sheet for more information on the requirements.

  A hazardous waste determination must be conducted on any materials resulting from the clean-up of a spill to determine whether or not disposal of the materials is subject to hazardous waste regulations. See Appendix A for information on hazardous waste determinations.

- **EPCRA:** If your facility stores 10,000 pounds or more of gasoline, diesel fuel, propane, ethylene glycol, kerosene, and/or fuel oil, either above- or underground for dispensing or for on-site use, you may have to report storage of that substance under EPCRA (The Emergency Planning and Community Right-to-Know Act of 1986). For specific reporting requirements, see Appendix B.

Legal References

Underground Storage Tanks

- Requirements - RCSA Section 22a-449(d)-1 and RCSA Sections 22a-449(d) 101-113
- Requirement for double-walled underground storage tanks - CGS Sections 22a-449o
- Storage of underground storage tank system records - CGS Section 22a-449q
- Annual Registration and Fee - CGS Section 22a-449 (e)
- Tank Closure: RCSA Section 22a-449(d)-107

Above Ground Storage Tanks

- Oil Pollution Prevention - 40 CFR 112.1

Vapor Recovery

- Control of organic compound emissions - RCSA Section 22a-174-20(a)(3)
- Dispensing of Gasoline, Stage I and Stage II Vapor Recovery - RCSA Sections 22a-174-30

Spill Clean-up

- Report of discharge, spill, loss, seepage or filtration - CGS Section 22a-450
- Hazardous Waste Determination - RCSA Section 22a-449(c)-102(a)(2(A); 40 CFR 262.11

Best Management Practices

- ★ Keep all information about registered underground storage tanks on file in a central location at the UST site.
- ★ Remove debris (e.g., leaf litter, sand) regularly from the spill bucket surrounding the fill pipe. If liquid petroleum does spill from the hose into the bucket during delivery or removal, a clean spill bucket will allow for the material to be drained back into the tank.
- ★ If possible, cover the outdoor aboveground tanks with a roof to prevent rainwater from filling the containment area.
- ★ Install a permanent submerged fill pipe (drop tube) with a discharge point of 6 inches from the bottom of the tank.

Pollution Prevention Checklist

- ✓ Is debris regularly removed from the spill bucket to prevent contamination?
- ✓ Are outdoor aboveground tanks covered to prevent rainwater from filling the containment area?

Did You Know?

Your business could incur substantial economic loss as a result of a leaking tank piping including loss of property value from contamination and the expense of cleanup.

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